

CLAIMS

- 1/ A method for enhancing the capacity of a cellular radio-communication system, a cell of said system comprising a base station and end-users able to communicate with said base station by using a first modulation type over a first channel, said cell experiencing an interference level from distant end-users communicating with at least one distant base station by using said first communication channel, said method being characterised in that end-users
- 10 located in at least one domain of said cell in which said interference level is lower than a predefined interference level communicate with said base station by using a second modulation type over a second communication channel, said second modulation type having a higher efficiency than said first modulation type, the size and location of said domains in said cell depending
- 15 on the antenna directivity of said distant end-users and on the relative positions of said distant base stations and said base station.

- 2/ A method according to claim 1, characterised in that said end-users are fixed terminals configured to use said second modulation type if they are
- 20 located in said domains in which said interference level is lower than said predefined interference level and said first modulation type if not.

3/ A method according to claim 1, characterised in that said end-users are mobile terminals able to switch between said first modulation type and said second modulation type depending on the domain they are moving to.

- 5 4/ A method according to one of the claims 1 to 3, characterised in that, said first modulation type is 4 QAM and said second modulation type is 16QAM.

- 5/ A method according to one of the claims 1 to 4, characterised in that said first and second communication channels are channels of a frequency and/or
10 time and/or code division multiplex scheme.

- 6/ A cellular radio-communication system, each cell of which comprising a base station and end-users able to communicate with said base station by using a first modulation type over a first communication channel, said cell
15 experiencing an interference level from distant end-users communicating with at least one distant base station by using said first communication channel, said system being characterised in that end-users located in at least one domain of said cell in which said interference level is lower than a predefined interference level communicate with said base station by using a second
20 modulation type over a second communication channel, said second modulation type having a higher efficiency than said first modulation type, the size and location of said domains in said cell depending on the antenna directivity of said distant end-users and on the relative positions of said distant base stations and said base station.

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